**TABLE 2**
List of alien species TPC exceedences to date

| Date | TPC level[1] | TPC detail | Species of concern | Management response | Expected outcome at the time of the TPC notification and current status |
|---|---|---|---|---|---|
| Oct. 1999 | Multi-level TPCs not in use | Imminent outside threat to the KNP (Crocodile River) | *Chromolaena odorata* (Chromolaena) | A special working for water contract was given to have the localised patch of plants eradicated | The aim was to eradicate the patch of plants, but it soon became evident that the patch would not be completely removed. *C. odorata* become part of a long-term, ongoing management programme |
| Oct. 1999 | Multi-level TPCs not in use | New record in the KNP- plants observed at Sunset Dam and Orpen Dam | *Azolla filiculoides* (red water fern) | Introduction of biological control agents | Long-term, ongoing control using biocontrol agents |
| Nov. 1999 | Multi-level TPCs not in use | New distribution in the KNP and an increase in distribution (Luvuvhu and Limpopo River systems) | *Oreochromis niloticus* (Nile tilapia) | To support the efforts of the provincial conservation authorities to curb the dispersal of these fish. To monitor the increase in distribution of the fish. To research the genetic mixing of *O. niloticus* and *O. mossambicus* (indigenous species) | Management / control of a fish species is unlikely in most situations, although further spread through anthropogenic means should be prevented. However, information is needed on the potential impacts to the ecosystem and other related species |
| Mar. 2000 | Multi-level TPCs not in use | New distribution within the KNP (N'waswitshaka firebreak, Skukuza) | *Agave sisalana* (Sisal) | Detailed survey of the area and chemical control of the plants | The aim was to eradicate this patch of plants. While the plants appear to be eradicated, periodic site visits are still carried out |
| Mar. 2000 | Multi-level TPCs not in use | Increase in distribution in the KNP (new records of both species along the Skukuza – Lower Sabie road) | *Senna occidentalis* (wild coffee) and *Senna bicapsularis* (rambling Cassia) | Detailed survey of the roadsides and mechanical / chemical control of the plants | Although the aim was to eradicate the plants this was found to be unfeasible and the sites still require ongoing control |
| May 2000 | Multi-level TPCs not in use | New occurrence of an invasive alien plant species within the boundary of the KNP (near Skukuza) | *Helianthus annuus* (Sunflower) and *Nicandra physaloides* (Apple of Peru) | Survey of the area for additional plants and physical removal | As there were only one plant of each species found, they were removed and it was felt unlikely that either species had established populations in the KNP |
| July 2000 | Multi-level TPCs not in use | Imminent outside threat to the Crocodile River | *Tithonia diversifolia* (Mexican Sunflower) | *T. diversifolia* was added to the list of species targeted by the alien plant control teams | Ongoing control is required, as it is unlikely that this species will ever be eradicated |
| Oct. 2000 | Multi-level TPCs not in use | Imminent outside threat (Malelane) | *Acridotheres tristis* (Indian myna) | Requested provincial conservation authorities to control the myna's. Requested all staff to report observations of myna's in the KNP | Myna's are closely associated with human settlements and are likely to increase in numbers in towns bordering the KNP. Myna's found in the KNP should be destroyed. |
| Sept. 2000 | Multi-level TPCs not in use | Imminent outside threat to the KNP, (Hans Merensky Country Club, Phalaborwa). | *Chromolaena odorata* (Chromolaena) | Control efforts were required to start immediately (mechanical / chemical). Ongoing monitoring and follow-up work | The aim was to eradicate the patches of plants, but it was unlikely that these plants could be eradicated and would have to form part of ongoing follow-up operations |
| Sept. 2000 | Multi-level TPCs not in use | Any new occurrence of an invasive alien plant species within the boundary of the KNP, (on the tributary of the Tshutshi spruit, Phalaborwa) | *Chromolaena odorata* (Chromolaena) | Control efforts were required to start immediately (mechanical / chemical). Ongoing monitoring and follow-up work | The aim was to eradicate the patches of plants, but it was unlikely that these plants could be eradicated and would have to form part of ongoing follow-up operations |
| Nov. 2000 | Multi-level TPCs not in use | New occurrence in the KNP- reported from Numbi and Shitlave, Pretoriuskop region | Varroa (bee) Mite | Ongoing monitoring | Unknown, potentially large impacts on bee colonies |
| Dec. 2000 | Multi-level TPCs not in use | New distribution in KNP (Talamati and Lower Sabie) | *Acridotheres tristis* (Indian myna) | Requested provincial conservation authorities to control the myna's. Requested all staff to report observations of myna's in the KNP | Myna's are closely associated with human settlements and are likely to increase in numbers in towns bordering the KNP. Myna's found in the KNP should be destroyed |
| Feb. 2001 | Multi-level TPCs not in use | Increase in distribution of a species in the KNP (Mlondozi Dam, N'waswitsontso River and Sabie River) | *Cardiospermum halicacabum* (Balloon Vine) | Survey of the areas invaded and *C. halicacabum* to be added to the list of species controlled | *C. halicacabum* to form part of the ongoing maintenance control work in the KNP |
| Feb. 2001 | Multi-level TPCs not in use | New occurrence of an invasive alien plant species within the boundaries of the KNP (two small patches at Pafuri and Vlakteplaas) | *Arundo donax* (giant reed) | Plants to be manually removed and any coppice to be sprayed with an appropriate herbicide | These small patches were to have been eradicated. While it appears that they have been eradicated, periodic site visits are still carried out |
| June 2001 | Multi-level TPCs not in use | New distribution in the KNP and an increase in distribution (Olifants and Crocodile Rivers) | *Hypophtalmichthys molitrix* (Silver carp) | To support the efforts of the provincial conservation to curb the dispersal of these fish. To monitor the increase in distribution of the fish. | Management / control of a fish species is unlikely in most situations, although further spread through anthropogenic means should be prevented. Information is however needed on the potential impacts to the ecosystem and other related species |
| Oct. 2002 | 2 | First occurrence from a new grid cell and any new grid cell invaded that is not contiguous with grid cells invaded previously- numerous patches along the Luvuvhu , Letaba, Klein Letaba, Olifants, Sabie and Crocodile Rivers | *Chromolaena odorata* (Chromolaena) | Continued surveys, monitoring and increased vigilance to determine the extent of the distribution of these plants. Immediate control of all plants. A number of regional workshops. An internal scientific report. | Control and containment of the plants still continues |
| May 2003 | 2 | First ever record from a new grid cell (or new area)- Gutchwa Spruit and Nsikazi River | *Eichhornia crassipes* (water hyacinth) | Chemical control of plants upstream of the KNP and biological control for plants from the KNP boundary downstream. | Eventual eradication of the plants outside the KNP and containment / long-term biological control of the plants inside the KNP |

**Online supplementary Table 2 (Cont...)**

| Date | TPC level[1] | TPC detail | Species of concern | Management response | Expected outcome at the time of the TPC notification and current status |
|---|---|---|---|---|---|
| May 2003 | 2 | First ever record from a new grid cell (or new area)- roadsides in the Crocodile Bridge and Lower Sabie areas | *Parthenium hysterophorus* (parthenium) | Ongoing mapping / surveying. Develop research projects on the potential spread and impacts of *P. hysterophorus*. Chemical control. | Containment of the plants at the current sites. While much research and distribution mapping has taken place, little chemical control has been done |
| May 2003 | 2 | First ever record from a new grid cell (or new area)- Sabie river, near Skukuza | *Colocasia esculenta* (elephants ears) | The two patches of plants to be removed through manual (digging) means. Follow-up by means of herbicides | The aim was eradication of these two patches of plants. It appears that the patches have been eradicated, although periodic site visits are still required |
| May 2003 | 2 | First ever record from a new grid cell (or new area)- numerous dams and rivers in the KNP | *Aplexa marmorata*; *Physa acuta*; *Lymnaea columella* (Alien snails) | Follow-up survey in 5 years time and research to be initiated on the potential impacts of the snails | Control unlikely, but an understanding of the potential impacts is necessary |
| July 2003 | 3 | Increase in density at Engelhard Dam | *Eichhornia crassipes* (water hyacinth) | Biological control of the Makhadzi Spruit and chemical control on the main body of Engelhard Dam | Long-term sustainable control largely through the use of biocontrol. Chemical control has continued to be used as an integrated management option on Engelhard dam |
| July 2003 | 1 | New occurrence of a species in the KNP- Pafuri region | *Australocylindropuntia cylindrical* | Chemical control | Eradication of this species from the KNP. Periodic site visits are still required |
| Sept. 2003 | 1 | New occurrence of a species in the KNP- Malelane, Crocodile River | *Tarebia granifera* (snail) | Monitoring of spread, research on possible future impacts | Control unlikely, but an understanding of the potential impacts is necessary |
| Oct. 2003 | 2 | Increase in distribution in the KNP- Skukuza animal holding bomas | *Acridotheres tristis* (Indian myna) | Control if possible and removal of nests if necessary | Eradication of birds at this site (the bird disappeared shortly after tabling this TPC) |
| Oct. 2003 | 2 | Increase in distribution – Crocodile river. Although *E. crassipes* had previously been known to occur in the Crocodile River, it had been absent since the floods of 2000. | *Eichhornia crassipes* (water hyacinth) | Integrated control using Biological control at selected sites and aerial application of herbicides as dam walls and weirs | Long-term integrated control |
| Feb. 2004 | 1 | New occurrence of a species in the KNP- Crocodile Bridge | *Harrisia martinii* (moon cactus) | Chemical control and follow-up operations to ensure patch is eradicated. Surveys to determine how far the plants have spread. Landowner in adjacent property (source) to control the plants as well | Although the aim was eradication of the patch of plants, ongoing site visits will still be required |
| Feb. 2004 | 2 | Increase in distribution in the KNP- Crocodile Bridge | *Bryophyllum delagoense* (mother of millions) | Chemical control and follow-up operations to ensure patch is eradicated. Surveys to determine how far the plants have spread. Landowner in adjacent property (source) to control the plants as well | Although the aim was eradication of the patch of plants, ongoing site visits will still be required |
| Feb. 2004 | 2 | Increase in distribution in the KNP- Crocodile Bridge | *Opuntia stricta* (sour prickly pear) | Chemical control and follow-up operations to ensure patch is eradicated. Surveys to determine how far the plants have spread. Landowner in adjacent property (source) to control the plants as well | Although the aim was eradication of the patch of plants, ongoing site visits will still be required |
| Mar. 2004 | 1 & 2 | Tabling TPC of bTB introduction and spread within the KNP | *Mycobacterium bovis* (bTB) | Ongoing monitoring of spread and prevalence per herd and region; detection of bTB in other species; containment at the human / wildlife interface | To develop long-term control methods |
| July 2004 | 2 | First ever record from a new area (Crocodile River) | *Pistia stratiotes* (water lettuce) | Determine the extent of the invasion, survey for the presence of biocontrol agents and release agents if necessary | Long-term control using biological control agents |
| July 2004 | 1 | Re-invasion of a controlled species- Mtshawu Dam. This species was previously completely controlled by the biocontrol agents and absent from the dam as from late 2001 | *Salvinia molesta* (Kariba weed) | Re-release of the biological control agents | Unlikely that eradication will take place. Ongoing monitoring and if necessary re-release of the biological control agents, to ensure a long-term control programme |
| Dec. 2004 | 2 | First ever record from a new area- Phabeni, Sabie River | *Thelechitonia trilobata* (Singapore daisy) | Chemical control | Ongoing chemical control operations to eradicate these patches from the Sabie River, and prevent re-introduction from further upstream in the Sabie River. Ongoing site visits continue |
| July 2005 | 2 | First ever record from a new grid cell- Tshokwane | *Opuntia imbricata* (imbricate cactus) | Chemical control of the plants and surveys to ensure any plants that have started to spread are also controlled | Eradication of this patch of plants. Although the plants appear to have been eradicated, ongoing site visits will be required |
| Oct. 2005 | 2 | First record in new grid cells (patches along the Sabie River, just upstream from Kruger Gate) | *Arundo donax* (giant reed) | Plants to be manually controlled and coppice to be sprayed with an appropriate herbicide | This invasion will require ongoing follow-up as part of routine operations, as it is unlikely that these patches will be eradicated |

**Online supplementary Table 2 (Cont...)**

| Date | TPC level[1] | TPC detail | Species of concern | Management response | Expected outcome at the time of the TPC notification and current status |
|---|---|---|---|---|---|
| Oct. 2005 | 1 | Imminent external threat (a species on the boundary of the KNP which might invade within the next 12 months)- Sabie River, Hazyview area | *Acacia decurrens* (green wattle) | Mechanical / chemical control of the trees in Hazyview. Survey between the plants and the KNP boundary | Although this patch can be eradicated, it is likely that there is a larger source somewhere in the upper catchment and continued vigilance is required |
| Sept. 2007 | 2 | First record in new grid cell (small patch of plants near Olifants tourist camp) | *Cereus jamacaru* (Queen of the night) | Plants to be chemically controlled with an appropriate herbicide | This small patch should be eradicated, but will require ongoing site visits |
| Sept. 2007 | 2 | First ever records in a new grid cell- Olifants River | *Opuntia stricta* (sour prickly pear) | Chemical control and surveys to determine whether the plants have already spread | Eradication of the patches of plants, but long-term monitoring for re-growth and re-invasion from sources in the upper Olifants River catchment |

[1]Level 1: TPCs that deal with new invasions of a species in the KNP.
Level 2: TPCs that deal with an increase in distribution of a species (or all species combined) in the KNP, over a 12 month period.